

ABSTRACT

A DNA vaccine effective for eliciting an immune response against cells that present a carcinoembryonic antigen (CEA) comprises a DNA operably encoding a CEA and a DNA operably encoding a CD40 ligand, SEQ ID NO:1 and SEQ ID NO: 2, respectively, or its homotrimer, CD40LT. The DNA vaccine can be incorporated in a delivery vector such as an attenuated live bacterium or virus, or a liposome carrier. In a method embodiment, the DNA vaccine is administered orally to a mammal, such as a human, to elicit an immune response against CEA presenting cells such as colon cancer cells. A preferred method embodiment includes the additional step of treating the mammal with recombinant antibody fusion protein huKS1/4-IL2 to enhance the immune response effectiveness of the vaccine.